**TRANBY COLLEGE**

**Psychology (ATAR) – Unit 1**

**Task 6 | Cognition Test [2015]**

**Question/Answer Booklet**

Student Name

Group: ☐ Friday Session1 ☐ Friday Session 2 ☐ Offline

*Please tick your group.*

## TIME ALLOWED FOR THIS PAPER

Working time for paper: 70 minutes

## MATERIAL REQUIRED/RECOMMENDED FOR THIS PAPER

***TO BE PROVIDED BY THE SUPERVISOR***

This Question/Answer Booklet

***TO BE PROVIDED BY THE CANDIDATE***

*Standard Items:* Pens, pencils, eraser and ruler.

*Special Items:* Calculators satisfying the conditions set by the Schools Curriculum and Standards Authority (SCSA)–*no graphics calculators permitted.*

## *INSTRUCTIONS TO CANDIDATES*

**No other items may be taken into the assessment.**

**It is your responsibility to ensure that you do not have any unauthorised notes or other items of a non-personal nature in the examination room. If you have any unauthorised material with you hand it to the supervisor BEFORE reading any further.**

**Structure of this paper**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Section** | **Number of questions available** | **Number of questions to be answered** | **Suggested working time (minutes)** | **Marks available** |
| Section One:  Research methods | 1 | 1 | 10 | 5 |
| Section Two:  Short answer | 4 | 4 | 30 | 20 |
| Section Three:  Extended answer | 1 | 1 | 20 | 15 |
|  |  |  | **Marks** | 55 |

**Instructions to candidates**

1. The rules for the conduct of this and the Western Australian external examinations are detailed in the *Year 12 Information Handbook 2014* and *Tranby College’s Assessment Policy.* Sitting this test implies that you agree to abide by these rules.
2. You must be careful to confine your responses to the specific questions asked and to follow any instructions that are specific to a particular question.
3. Spare pages are included at the end of this booklet. They can be used for planning your responses and/or as additional space if required to continue an answer.
   1. Planning: If you use the spare pages for planning, indicate this clearly at the top of the page.
   2. Continuing an answer: If you need to use the space to continue an answer, indicate in the original answer space where the answer is continued, i.e. give the page number. Fill in the number of the question(s) that you are continuing to answer at the top of the page

**Section One: Research Methods (5 marks)**

This section has one (1) question. Write your answers in the spaces provided. Spare pages are included at the end of this booklet. They can be used for planning your responses and/or as additional space if required to continue an answer.

* Planning: If you use the spare pages for planning, indicate this clearly at the top of the page.
* Continuing an answer: If you need to use the space to continue an answer, indicate in the original answer space where the answer is continued, i.e. give the page number. Fill in the number of the question that you are continuing to answer at the top of the page.

**Question One (5 marks)**

Previous research has shown that listening to certain types of classical music (for example, a Mozart concerto) may increase performance on spatial-temporal tasks for a short period of time. However, this research has been disputed. Professor Hayley aims to investigate the effect of classical music on a spatial-temporal task that involves paper folding and cutting. She plans to find out if the effect exists for ATAR students at Tranby College, a coeducational independent outer-metropolitan school.

Professor Hayley recruits participants who are studying ATAR at the school. She asks the first 40 students that visit the library to participate. All 40 students provide signed informed consent. The participants sit quietly for 20 minutes and then attempt the first paper folding and cutting test (Condition 1).

The same participants then listen to classical music for the next 20 minutes. Immediately afterwards they complete a similar paper folding and cutting test (Condition 2). Professor Hayley asks a teacher, who does not know which test relates to which condition, to mark the tests.

The results are as follows.

*Condition 1 (control): Mean test score = 8*

*Condition 2 (listening to classical music): Mean test score = 12*

A statistical test on these results found that *p* < 0.05

Professor Hayley has developed a theory that students who have 9 or more hours of sleep each night will perform better at complex mathematical tasks than students who have less than 8 hours of sleep each night. She conducts an experiment and records the results himself.

She ﬁnds a statistically signiﬁcant difference between the two groups, with the students who sleep longer demonstrating superior performance.

1. Identify:
2. The dependent variable for the study

**The score obtained on the paper folding and cutting test or the performance on spatio-temporal tasks**

**(1)**

1. The independent variable for the study

**Whether students listen to classical music before completing the paper task or not**

(1)

1. Construct an operational hypothesis for this study.

**ATAR students from Tranby College who listen to classical music for twenty minutes before performing spatial-temporal tasks will perform better on these tasks**

(1)

1. Was random sampling used in this study? Explain your answer.

**Random sampling was not used in this study. Random sampling would allow every member of the population the same chance of being involved in the study. This did not occur as Professor Williams used the first 40 students who walked into the library**

(1)

1. Justify why random sampling is often a preferred sampling technique?

**Random sampling is often preferred as it is more likely that a sample gained this way will be representative of the population of interest and/or participant variables will be distributed in the sample in the same proportions as in the population (so their effects on the dependent variable will be eliminated).**

(1)

**End of Section One**

**Section Two (20 marks)**

This section has four (4) questions. Answer all questions. Write your answers in the spaces provided. Spare pages are included at the end of this booklet. They can be used for planning your responses and/or as additional space if required to continue an answer.

* Planning: If you use the spare pages for planning, indicate this clearly at the top of the page.
* Continuing an answer: If you need to use the space to continue an answer, indicate in the original answer space where the answer is continued, i.e. give the page number. Fill in the number of the question that you are continuing to answer at the top of the page.

**Question Two (6 marks)**

1. Complete the missing words by writing the answer on the lines provided.

The brain’s electrical activity can be measured to determine different states of consciousness. The brainwave patterns during a very relaxed but awake state of consciousness are  **ALPHA** waves, while during an alert state they are  **BETA**  waves.

(2)

1. Identify and describe the brainwave patterns during REM (dreaming) sleep.

**THETA (1)**

**lower frequency and higher amplitude than alpha waves (1) *NB comparison to alpha is not essential.***

(2)

1. Explain what the Galvanic Skin Response (GSR) measures?

**Measures the conductivity of electricity due to amount of sweat. (Do not accept amount of sweat)**

(1)

1. The GSR can be incorrectly interpreted as a measure of a state of consciousness.

Describe one example of how this can occur.

**Required to indicate that conditions other than altered states of consciousness can cause variation in GSR. Examples such as ambient temperature, exercise, emotion etc. were acceptable**

(1)

**Question Three (6 marks)**



**Figure 1:**

***Landscape image***

1. Name two pictorial depth cues used in Figure 1 to produce the perception of depth and/or distance in this picture. Clearly explain how each assists the viewer to perceive depth and/or distance in this picture.

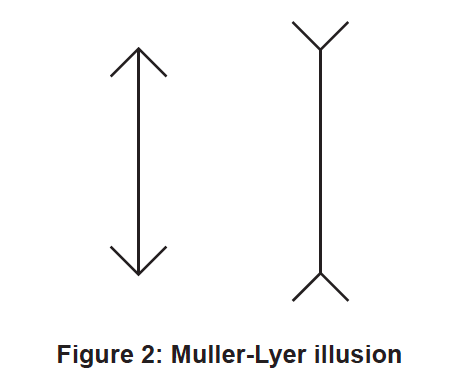
**Cues: 2 x (1)**

* **Linear perspective**
* **Relative size**
* **Interposition (overlap)**
* **Height in visual field (height in plane)**
* **Texture gradient (gradients of texture)**

**Explanations: 2 x (1)**

* **Explanations have to detail how the cues were applied with reference to this specific picture.**

**(4)**



**Figure 2:**

***Müller-Lyer Illusion***

1. Are visual illusions the same in all cultures? Explain the reason for your answer by referring to research on the Müller-Lyer illusion (as shown in Figure 2).

* **No (visual illusions are not the same in all cultures) (1)**
* **Research has found that people from Western countries are more likely to experience the Muller-Lyer illusion than people from non-Western countries (which may be because of differences in architecture). (1)**

**OR**

* **Perception of visual illusions differ based on past experiences / perceptual expectancies / the persons environment. (1)**

(2)

**Question Four (4 marks)**

List and explain two reasons for using group testing to measure ‘intelligence’.

***Any two of the following***

**Testing a large number of people (1) – provides more information about the intelligence of a specific population. (1)**

**Conducted in a relatively short period of time (1) – takes less time to test in groups than individually. (1)**

**Easy to organise (1) – usually a paper and pen test, so less equipment and preparation is required. (1)**

**Involves minimal professional expertise (1) – examiner does not need to be highly trained to administer a group test. (1)**

**Reduced number of examiners/psychologists required (1) – only a small number of people are required to administer a group test. (1)**

(4)

**Question Five (4 marks)**

Madeleine was reading a book and had habituated to the sound of the clock ticking in the room.

1. Define ‘habituation’.

***Examples of correct definitions (wording does not have to be exact but response must accurately convey correct meaning):***

* **“Learning not to respond to events or activities that occur repeatedly or do not grab our attention” (Fletcher & Garton, 2007, p. 494).**
* **“Adjust(ing) our attention levels to ignore a repetitive stimulus” (Fletcher & Garton, 2007, p. 417)**
* **“When predictable and unchanging stimuli fail to command attention” (Fletcher & Garton, 2007, p. 417)**
* **“The decreasing strength of a response after repeated presentations of the stimulus” (Burton, Weston, & Kowalski, 2012. p. G-9) (1)**

1. Define ‘dishabituation’.

**Any example that indicates a change in the stimulus or its intensity. Examples of correct responses:**

* **“When a change in the stimulation is so intense that it causes us to pay attention” (Fletcher & Garton, 2007, p. 417)**
* **“A change in events or activities that causes us to become aware of them” (Fletcher & Garton, 2007, p. 493) (1)**

1. Josh is studying in the library and does not notice his friend come in and sit at the desk next to him.
   1. Identify whether this is an example of selective attention or divided attention.

**Selective Attention (1)**

(1)

* 1. Outline the reason for your answer to part (c) (i).

**Because the student is focusing/paying attention to one thing in their environment to the exclusion of others / and not paying attention to something else (1)**

**End of Section Two**

**Section Three: Extended Answer (15 marks)**

This section contains one (1) question. Pages are included at the end of the questions for planning and writing your answers.

* Planning: If you use a page for planning, indicate this clearly at the top of the page.
* Answering the question: In the pages provided indicate clearly the number of the question you are answering.
* You should refer to relevant psychological concepts, theories and research in your answer.

Part of the role of a psychologist is to assess people’s intelligence in workplaces.

Different theories of intelligence include the intelligence quotient (IQ), emotional intelligence and multiple intelligences.

*Describe two of these different theories of intelligences and how they may be used to understand an individual.*

In your answer, you should:

* Define intelligence, IQ, emotional intelligence and multiple intelligences.
* Describe how an understanding of different theories of intelligence may be useful.
* Refer to theorists related to different understandings of intelligence

|  |  |
| --- | --- |
| **Definitions** | **3** |
| Correct definitions are given, with detailed references to relevant psychological concepts, theories and research that describes and explicitly explains what the theory or research contributes to the topic being discussed. | 3 |
| Correct definitions are given, with minimal (one or two), brief and/or inaccurate descriptions of relevant psychological concepts, theories and research. | 2 |
| Contains some generalisations and statements consistent with current psychological understandings or definitions are a series of personal opinions. | 1 |
| No Definitions | 0 |
| **First type of Intelligence.** | **5** |
| An extended answer with detailed references to relevant psychological concepts, theories and research that describes and explicitly explains what the theory or research contributes to the topic being discussed. | 5 |
| An extended answer with minimal (one or two), brief and/or inaccurate descriptions of relevant psychological concepts, theories and research. 3–4 | 3 -4 |
| Contains some generalisations and statements consistent with current psychological understandings or answer is a series of personal opinions or produces a short answer with or without making reference to empirical evidence. | 1 – 2 |
| No answer | 0 |
| **First type of Intelligence.** | **5** |
| An extended answer with detailed references to relevant psychological concepts, theories and research that describes and explicitly explains what the theory or research contributes to the topic being discussed. | 5 |
| An extended answer with minimal (one or two), brief and/or inaccurate descriptions of relevant psychological concepts, theories and research. 3–4 | 3 -4 |
| Contains some generalisations and statements consistent with current psychological understandings or answer is a series of personal opinions or produces a short answer with or without making reference to empirical evidence. | 1 – 2 |
| No answer | 0 |
| **Structure** | **2** |
| A sophisticated, well-written and well-constructed extended answer, using appropriate language of psychology. Sound use of the conventions except where expression is enhanced by defying conventions. | 2 |
| Literacy enables the construction of an extended answer with well-developed sentences and paragraphs. | 1 |
| Is unable to express ideas with clarity of meaning or answer cannot be understood by the marker. | 0 |
| **Total** | **15** |

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